



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/763,667	01/21/2004	Bee Yin Chua	70020024-6	7295

7590 06/23/2004

AGILENT TECHNOLOGIES, INC.  
Legal Department, DL429  
Intellectual Property Administration  
P.O. Box 7599  
Loveland, CO 80537-0599

EXAMINER

KOSLOW, CAROL M

ART UNIT PAPER NUMBER

1755

DATE MAILED: 06/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/763,667	Applicant(s) CHUA, BEE YIN	
	Examiner C. Melissa Koslow	Art Unit 1755	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 and 13-18 is/are rejected.
- 7) ☒ Claim(s) 11 and 12 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☒ Certified copies of the priority documents have been received in Application No. 10/282,859.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1/21/04</u> . | 6) <input type="checkbox"/> Other: ____.  |

Art Unit: 1755

EP 1199757 cited in the information disclosure statement filed 21 January 2004 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

U.S. patent 2,049 has been crossed off since this patent was issued is 1841, not 2001, is directed to a pressure gauge and the inventor is G. Bradley, not Reeh et al.

The disclosure is objected to because of the following informalities: The status of the parent application needs to be updated. Appropriate correction is required.

Claim 4 is objected to because of the following informalities: Ygd should be YGd. Appropriate correction is required.

Claim 15 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 15 implies the process comprises providing three coating layers on the phosphor particles. It is suggested to rewrite this claim to make it clear the second coating step in this claim is the coating step of claim 14.

The narrow phrase and range after the term "preferably" has been given no patentable weight. This is because the phrase and range after the term "preferably" are examples of the broad term and claims are given their broadest interpretation. Applicants may add dependent or independent claims directed to the above narrow phrase or range.

Art Unit: 1755

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by WO 01/00748; U.S. patent 3,993,838 or U.S. patent 4,508,760.

Claims 1 and 14 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. patent 6,417,611.

All of these references teach individual phosphor particles coated with a coating comprising a plastic substance. U.S. patent 4,508,760 teaches coating the individual phosphor particles with a poly-para-xylylene, a plastic or polymer. U.S. patent 3,993,838 teaches coating the individual phosphor particles with a composition comprising a plastic, such as a low molecular weight polyethylene or an ethylene/vinyl acetate copolymer (col. 3, lines 1-20). WO 01/00748 teaches coating individual phosphor particle with polymers or plastics in lines 190-196 on page 7. U.S. patent 6,417,611 teaches cathode ray tube phosphors coated with a coating comprising a polymer or plastic selected from polyamides, polyurethanes, polyacrylamides, urea-formaldehyde resins and melamine containing polymers. The references clearly teach the claimed filler and process.

Claims 1, 2 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 5,874,491.

Art Unit: 1755

This reference teaches individual phosphors are particles coated with an optically transparent epoxy resin or polyurethane (col. 2, line 55-col. 3, line 21). The reference clearly teaches the claimed filler and process.

Claims 1, 3 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by U.S. patent 4,175,160; U.S. patent 5,952,036 or EP 852,255.

Claims 1, 3 and 14 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. patent 6,562,460.

All of these references teach individual stable phosphor particles coated with a coating comprising a plastic substance. EP 852,255 teaches zinc silicate (willemite), barium disilicate or calcium halophosphate phosphors, which are all stable, coated with a polymer or plastic. U.S. patent 5,952,036 teaches phosphor particles coated with a methacrylate resin, a plastic, which is used in plasma display panels. The exemplified phosphors are stable. U.S. patent 4,175,160 teaches phosphors used in cathode ray tubes coated with an amino acid modified polyvinyl alcohol. One of the exemplified phosphors is europium activated yttria, which is a stable phosphor (col. 2, lines 62-63). U.S. patent 6,562,460 teaches the stable phosphors in column 6 coated with a polymer. The references clearly teach the claimed filler and process.

Claims 1, 2, 13 and 14 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by EP 754,745.

This reference teaches individual phosphors coated with vinyl-epoxy resin. Vinyl-epoxy resin includes hydrophobic alkyl residues and thus the resin forms a moisture-repellant barrier. The reference clearly teaches the claimed filler and process.

Art Unit: 1755

Claims 1, 5, 7, 13-15 and 18 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent Application Publication 2002/150760.

The provisional application for this reference (60/282,391 filed 6 April 2001) teaches zinc sulfide based electroluminescent phosphors individually coated with an aluminum nitride layer, to form a moisture-proof barrier layer, which are further provided with an organic coating selected from polyester, polyalkylacrylate or vinyl-epoxy resins to form a moisture-repellant barrier on the nitride layer. Thus the taught vinyl-epoxy resin must contain hydrophobic residues. Zinc sulfide electroluminescent phosphors are known to be unstable. The reference teaches the claimed filler and process.

If a copy of a provisional application listed on the bottom portion of the accompanying Notice of References Cited (PTO-892) form is not included with this Office action and the PTO-892 has been annotated to indicate that the copy was not readily available, it is because the copy could not be readily obtained when the Office action was mailed. Should applicant desire a copy of such a provisional application, applicant should promptly request the copy from the Office of Public Records (OPR) in accordance with 37 CFR 1.14(a)(1)(iv), paying the required fee under 37 CFR 1.19(b)(1). If a copy is ordered from OPR, the shortened statutory period for reply to this Office action will not be reset under MPEP § 710.06 unless applicant can demonstrate a substantial delay by the Office in fulfilling the order for the copy of the provisional application. Where the applicant has been notified on the PTO-892 that a copy of the provisional application is not readily available, the provision of MPEP § 707.05(a) that a copy of the cited reference will be automatically furnished without charge does not apply.

Art Unit: 1755

Claims 1, 5, 6 and 14-17 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. patent 6,346,326.

This reference teaches alkaline earth sulfide phosphors, such as  $\text{SrS:Eu}^{2+}$ , coated with a fluoride coating which acts as a moisture-proof barrier film by the Wet Chemical process. Column 3, lines 13-15 teach a polymeric or plastic coating can be applied over the fluoride coating. One of ordinary skill in the art knows for the polymer coating to be applied, it must be physically deposited onto the fluoride coating. All known coating methods for applying polymers will physically deposit the polymer. The reference teaches the claimed filler and process.

Claims 1, 5, 7, 8, 14, 15 and 18 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by JP 2-308892.

The abstract for this reference teaches individual phosphor particles having an inorganic moisture-proof barrier film and a copolymer acrylate/methacrylate polymer coatings on the film. The exemplified phosphors in the reference include unstable zinc sulfides and the film can be aluminum oxide. The reference teaches the claimed filler and process.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP 754,745.

As discussed above, this reference teaches the filler of claim 1. Page 5, lines 5-6 teaches the resin coating has a thickness of 0.01-10 microns, which encompasses the claimed ranges.

Art Unit: 1755

Product claims with numerical ranges which overlap prior art ranges were held to have been obvious under 35 USC 103. *In re Wertheim* 191 USPQ 90 (CCPA 1976); *In re Malagari* 182 USPQ 549 (CCPA 1974); *In re Fields* 134 USPQ 242 (CCPA 1962); *In re Nehrenberg* 126 USPQ 383 (CCPA 1960). The reference suggests the claimed filler.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. patents 6,417,611; 4,175,160 or 5,952,036.

As stated above, these references teach polymer coated phosphors used in displays. The coated phosphors of U.S. patents 6,417,611 and 4,175,160 are any known to be used in cathode ray tubes and the coated phosphor of U.S. patent is any that is known to be used in plasma display panels. While none of the patents explicitly teaches the phosphor is a garnet type phosphor, it is notoriously well known in the art that yttrium aluminate garnet phosphors are used in these devices. Cerium activated yttrium aluminate garnet is known to be used in cathode ray tubes and terbium or europium activated yttrium aluminate garnets are known to be used in plasma display panels. Since the reference teaches using any known phosphor commonly used in the taught devices and yttrium aluminum garnet phosphors are such phosphors, one of ordinary skill in the art would have found it obvious to coat cerium, terbium or europium activated yttrium aluminate garnet phosphors with the polymers taught in the references. The references suggest the claimed filler.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication 2002/150760.

As discussed above, the provisional application for this reference teaches the filler of claim 5. While it does not teach silver activated zinc sulfide, it does teach the use of any zinc



Art Unit: 1755


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melissa Koslow whose telephone number is (571) 272-1371. The examiner can normally be reached on Monday-Friday from 8:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Bell, can be reached at (571) 272-1362.

The fax number for all official communications is (703) 872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

cmk  
June 22, 2004

  
C. Melissa Koslow  
Primary Examiner  
Tech. Center 1700